b) washing the resulting hybrid under non-stringent

conditions; and

c) detecting said hybrid.

44. (Once Amended) The method of claim 42, wherein said nucleic acid comprises nucleotides 1-380 of the U3/R region of HIV-2, wherein said nucleotides 1-380 comprise[s] the following sequence:

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GTGGAAGGCGAGACTGAAAGCAAGAGGAATACCATTTAGTTAAAGGACAG
GAACAGCTATACTTGGTCAGGGCAGGAAGTAACTAACAGAAACAGCTGAG
ACTGCAGGGACTTTCCAGAAGGGGCAGTAACCAAAGGGAAGGACATGGGAG
GAGCTGGTGGGGAAAGGCCTCATATTCTCTGTATAATATACCCGCTGCTTG
CATTGTACTTCAGTCGCTCTGGGAGAGGCTGGCAGATTGAGCCCTGGAG
GATCTCTCCAGCACTAGACGGATGAGCCTGGGTGCCCTGCTAGACTCTCA
CCAGCACTTGGCCGGTGCTGGCAGACGGCCCCACGCTTGCCTGCTTAAAA
ACCTTCCTTAATAAAGGTGCAGTAGAAGCA

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]/ 1/2 **4** 1: 45. (Once Amended) The method of claim 42, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1-1566 of the gag gene of HIV-2: GAGRODE MetGlyAlaArgAssSerValLeuArgGlyLysLysAlaAspGla

LeuGluArgIleArgLeuArgProGlyGlyLysLysTyrArg
LeuLysHisIle ValTrpAlaAlaAenLysLeuAspArgPheGly

100 LeuAlaGluSerLeuLeuGluSerLysGluGlyCysGloLysIle

LeuThr ValLeuAspProHet ValProThrolySerGluAsuLeu

LysSerLeuPheAsnPhrValCysValIleTrpCysIleEisAla
GluGluLysValLysAspThrGluGlyAlaLysGlnIleValArg

ArgRisLeuValAlaGluTbrGlyTbrAlaGluLysHetProSer

TheSerArgProThralaProSerSerGluLysGlyGlyAsaTyr

ProValGlaHis ValGlyGlyAsaTyrThrHisIleProLeuSer

ProArgThyLeuAsnAlaTrpValLysLeuValGiuGluLysLys

PheGlyAlaGluValValProGlyPheGlnAlaLeuSerGluGly

CyaThrProTyrAspIleAsnGlnNetLeuAsnCysValGlyAsp

EisGlnAlaAlaHetGlnIleIleArgGluIleIleAsnGluGlu

AlaGlyGlnLeuArgGluProArgGlySerAspIleAlaGlyThr

. 700 . ThrSerThrValGluGluGlnIleGlaTrpHetPheArgProGla

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AsnProValProValGlyAsnIleTyrArgArgIrpIleGlnIle GlyLeuGlnLysCysValArgMetTyrAsnProThrAsnIleLeu AsplieLysGlaGlyProLysGluProPheGlaSerTyrValksp ArgPheTyrLysSerLeuArgAlaGluGlnThrAspProAlaVal LysAsnTrpHetThrGlnThrLeuLeuValGlnAsnAlaAsnPro AspCysLysLeuValLeuLysGlyLeuGlyHetAsnProThrLeu 1000 GluGluHetLeuThrAlaCysGlnGlyFalGlyGlyProGlyGln LysAlaArgLeuMet4laGluAlaLeuLysGluValIleGlyPro 1100 AlaProlleProPhe. aAlaxlaGlnGlnArgLysAlaPheLys CysTrpAsnCysGlyLysGluGlyHisSerAlaArgGlnCysArg AlaProArgArgGlaG's ysCysGlyLysProGlyBis IleHetThrAsnCysProAspArgGlnAlaGlyPheLeuGlyLeu GlyProTrpG1yLysLysProArgAsnPheProValAlaGlnVal ProGlagiyLeuThrProThrAlaProProValAspProAlaVal AspleuLeuGluLysTyrMetGlnGlnGlyLysArgGlnArgGlu 400 91nArzGluArgProTyrLysGluValThrGluAspLeuLeuHis LeuGluGluGlyGluThrProTyrArgGluProProThrGluAsp Z500 LeuLeuRisleuAsuSerLeuPheGlyLysAspGln

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The method of claim 42, wherein said 46. (Once Amended) nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1114-1524 of the gag gene of HIVA

ArglysalaBSelys CysTrpAsaCysGlyLysGluGlyHisSerAlaArgGlaCysArg AlaProArgArgGlnGlyCysTrpLysCysGlyLysProGlyEis IleHetThrAsnCysProAspAr2GlpAlaGlyPheLeuGlyLeu 1300 GlyProTrpGlyLysLysPtoArgAsaPheProValAlaGlaVal ProGlaGlyLeuThrPro#brAlaProProValA 1400 GlaAraGluKrgProTyrLysGluValThrGluAspLeuLeuHis euGlaGlaGlyGluThrProTyrArgGluProProThrGluAsp

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47. (Once Amended) The method of claim 42, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1-405 of the gag gene of HIV-2:

7-2

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MetGlyAlaArgAsaSerValLeuArgGlyLysLysAlaAspGlu
LeuGluArgIleArgLeuArgProGlyGlyKysLysLysTyrArg
LeuLysHisIleValTrpAlaAlaAspLysLeuAspArgPheGly
100
LeuAlaGluSerLeuLeuGluSerLyeGluGlyCysGlnLysIle
LeuThrValLeuAspProMetValProThrGlySerGluAsnLeu
200
LysSerLeuPheAspThrValCysValIleTrpCysIleEisAla
GluGluLysValLysAspThrGluGlyAlaLysGlnIleValArg
ArgHisleuValAlaGluThrGlyThrAlaGluLysMetProSer
ThrSerArgProThrAlaProSerSerGluLysGlyGlyAsaTyr
400

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48.

(Once Amended) The method of claim 42, wherein said, nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid/sequence comprises nucleotides 406-1155 of the gag gene of HW-2: ProvalGinHis ValGlyGlyAsnTyrThrHisIleProLeuSer ProArgIbrLenAsnAlaTrpValLysLenValGluGldLysLys PheGlyAlaGlu ValValProGlyPheGlnAlaLeuSerGluGly CysThrProTyrAspTleAsaGlnMetLeyAsaCysValGlyAsp HisGlnAlaAlaHetGlnLYelleAr&GluIleIleAsnGluGlu AlaAlaGluIrpAapValGluHisProIlaProGlyProLeuPro AlaGlyGlnLenArgGluProArgGlySerAspIleAlaGlyThr ThrSerThrValGluGluGluIleGluTrpHetPheArgProGlu AsnProValPróValGlyAsnileTyrArgArgTrpIleGlnIl GlyLeuGl'aLysCy **ValArgHetTyrAsnProThrAsnIleLen** AspIXeLysGlaGlyProLysGluProPheGlaSerTyrValAsp SerLeuArgAlaGluGlaThrAsp?roAlaVal LysAsnIrpHetThrGlaThrLeuLeuValGlaAsnAlaAsnPro AspCysLysLenValLenLysGlyLeuGlyHetAsnProThrLen GluGluMetLeaThrAIaCysGluGlyValGlyGlyProGlyGla LysAlaArgLenRetAlaGluAlaLeuLysGluVallleGlyPro AlaProlleProPheAlaAlaAlaGluGlu

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49.

The method of claim 42, wherein said, (Once Amended) nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence ENVRE comprises nucleotides 1-2673 of the env gene of HIV-2 HetMetAsaGlaLeuLeuIleAlaIleLeuLeuAlaSerAlaCy Leu ValTyrCysThrGlnTyrValThrValPheTyrGlyYalPro ThrTrpLysAsnAlaThrIleProLeuPheCysAlaThrA: Asn ArgAspThrTrpGlyThrIleGlaCysLeuProAspAstAspAsp TyrGlnGluIleThrLeuAsnValThrGluAlaPheAspAlaTrn 200 AsnAsnThrValThrGluGlnAlaIYeGluAspValTrpEisLeu SPzoC#sValLysLeuThrProLeuCys PheGluThrSerIleLy Valalaliet Lys Cys Ser Sér Thr Glu Ser Ser Thr Gly As n As n GlnGluGluGluIleSerGluAspTbrProCysAlsArgAlaAsp AsnCysSer@lyLeuGlyGluGluGluThrIleAsnCvsGinPhe AsaHetAhrGlyLeuGluArgAspLysLysLysGlaTy:AsaGla AsnGlnThrGlnCysTyrHetAsnEisCysAsnThrSerVallle ThrGluSerCysAspLys2isTyrTrpAspAl:IleArgPheArg TyrCysAlaProProGlyTyrAlaLeuLeuArgCysAsoAspThr AsnTyrSerGlyPheAlaProAsnCysSerLysValValAlaSer

proble

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ThrCysThrArgHetHetGluThrGluThrSerThrTrpPheGl PheAsoGlyThrArgAlaGluAsoArgThrTyrIleTyrTrpHis GlyArgAspAsnArgThrIleIleSerLeuAsnLysTyrTyrAsa 900 LeuSerLeuHisCysLysArgProGlyAsnLy&ThrValLysGlm IleHetLeuHetSerGlyHisValPheHisSerEisTyrGlnPro IleAsaLysArgProArgGlaAlaTrpCysTrpPheLysGlyLys 1000 TrpLysAspAlaHetGlnGluValLysThrLeuAlaLysHisPro ArgTyrargGlythrainAspThrArgAspIleSerPhealaAla ProGlyLysGly\$erAspProGluValAlaTyTHetTrpTbrAsB CysArgGlyGluPheLeuTyrCysAsnHetThrTrpPheLeuAsn 1200 TrpIleGluAsaLysThrEisArgAsaTyrAlaProCysEisIle LysGlmIleIleAsmThrT:pEisLysValGlyArgAsmValTyr LeuProProArgGluGlyGluLeuSerCysAstSerThrValThr SerllelleAlaAsmileAspTrpGlnAsnAsmAsmGlmThrAsm IleThrPheSerAlaGluValAlaGluLeuTyrArgLeuGluLee GlyAspTyrLysLeuValGluIleThrProIleGlyPheAlaPre

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ThrLysGluLysArgTyrSerSerAlaHisGlyArgHisThrArg GlyValPheValLeuGlyPheLeuGlyPheLeuAlaThrAlaGly SerAlaHetGlyAlaArgAlaSerLeuThrValSerAlaGlnS ArgThrLeuLeuAlaGly:leValGlnGlnG/nGlnGlnLeuLeu AspValVaiLysArgGlaGlaGluLeuLeuArgLeuThrValTrp GlyThrLysAsaLeuGlnAlaArg/ValThrAlaIleGluLysTyr LeuGlaAspGlaAlhArgLegAstSerTrpGlyCysAlaPheArg GloValCysHisThrThrValProT:pValAsnAspSerLeuAla ProAspTrpAspAsaWetThrTrpGlnGluTrpGluLysGlnVal ArgTyrLeuGluAlaAsnIleSerLysSerLeuGluGlnAlaGln IleGlnGlnGluLysAsnNetTyrGluLeuGlnLysLeuAsnSer TrpAspIlePheGlyAsaTrpPheAspLeuThrSerTrpValLys TyfileGinTyrGlyValLeuIleIleValAlaValfleAlaLeu ArgileVallieTyrValValGlnHetLeuSerArgLeuArgLys GlyTyrArrFroValPheSerSerProProGlyTyrIleGlaGinc.

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IleEis'IleEisLysAspArgGlyGlnProAlsAsnGluGluThe GluGluAspGlyGlySerAsnGlyGlyAspArgTyrTrpProTrp ProlleAlaTyrlleHisPheLeuIleArgGlnLeuIleArgI LeuThrargLeuTyrSerIleCysArgAspLeuLeuSerArgSer PheLeuThrLeuGlaLeuIleTyrGlaAsaLeuArgAspTrpLeu ArgLeuArgThrAlaPheLeuGlnTyrGlyCysGluTrpIleGln 2400 GlualaPheGlualaAlaArgalaThrArgGluThrLeuAla GlyAlaCysAr, GlyLeuTrpArgValLeuGluArgIleGlyArg GlyIleLeuAlaValProArgArgIleArgGluGlyAlaGluIle yrSerHetGluGlyProSerSerArgLysGlyGluLysPheVal GinAlaThrLysTyrGly

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probe for HIV 2 RNA, said method comprising:

- a) [recombinantly synthesizing a] providing a recombinant cloning vector, wherein said vector comprises nucleic acid [corresponding] complementary to HIV-2 RNA;
- b) cloning said vector in a competent cellular host;and
 - c) recovering the DNA-recombinants.

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54. (Once Amended) The method of claim 52, wherein said nucleic acid comprises nucleotides 1-380 of the U3/R region of HIV-2, wherein said nucleotides 1-380 comprise[s] the following sequence:

GTGGAAGGCGAGACTGAAAGCAAGAGGAATACCATTTAGTTAAAGGACAG
GAACAGCTATACTTGGTCAGGGCAGGAAGTAACTAACAGAAACAGCTGAG
ACTGCAGGGACTTTCCAGAAGGGCCTGTAACCAAGGGACGACATGGGAG
GAGCTGGTGGGGAACGCCTCATATTCTCTGTATAATATACCCGCTGCTAG
CATTGTACTTCAGTCGCTCTGCGGAGAGGCTGGCAGATTGAGCCCTGGAG
GATCTCTCCAGCACTAGACGGATGAGCCTGGGTGCCCTGCTAGACTCTCA
CCAGCACTTGCCCGGTGCCAGACGGCCCCACGCTTGCCTGCATAAAA
ACCTTCCTTAATAAAGCTGCAGTAGAAGCA

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55. (Once Amended) The method of claim 52, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1-1566 of the gag gene of HIV-2: GAGRODE MetGlyAlaArgAssSerValleuArgGlyLysLysAlaAspGlu

LeuGluArglieArgLeuArgProGlyGlyLysLysLysTyrArg

Leulys His Ile ValTrp AlaAlaAs mlys LeuAsparg PheGly

LeuAlaGluSerLeuLeuGluSerLyeGYuGlyCysGluLysIle

LeuThr ValLeuAspProMetValProThrGlySerGluAsnLeu

LysSerLeuPheAsnThrValCysVallleTrpCysIleEisAla

GluGluLys Vallys AspThrGluGlyAlaLysGluIle ValArg

ArgRisLeuValAlaGluThrGlyThrAlaGluLysHetProSer

ThrSerArgProThrAlaProSerSerGluLysGlyGlyAsaTyr

ProValGlaHisValGlyGlyAsuTyrThrHisIleProLeuSer

ProArgThrLeuAsnAlaTrpValLysLeuValGluGluLysLys

PheGlyAlaGluValValProGlyPheGlnAlaLeuSerGluGly

/ 300 CysThrProTyrAspIleAsnGlnMetLeuAsnCysValGlyAsp

EisGlnAlaAlaHetGlnIleIleArgGluIleIleAsnGluGlu

AlaAlaGluTrpAspValGluHisProIleProGlyProLeuPro

AlaGlyGloLeuArgGluProArgGlySerAspIleAlaGlyThr

ThrSerThrValGluGluGlnIleGlnTrpHetPheArgProGln

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AsnProValProValGlyAsnIleTyrArgArgIrpIleGlnIle GlyLeuGlnLysCysValArgHetTyrAsnProThrAsnIleL AspIleLysGlaGlyProLysGluProPheGlaSerTyrValAsp ArgPheTyrLysSerLeuArgAlaGluGlnThrAspFroAlaVal LysAsnTrpMetThrGlnThrLeuLeuValGlnAsnAlaAsnPro AspCysLysLeuValLeuLysGlyLeuGlyMetAsnProThrLeu 1000 GluGluHetLeuThrAlaCysGlnGlyValGlyGlyProGlyGln LysAlaArgLeuMetAlaGluAlaLeuLysGluValIleGlyPro AlaProIleProPheAlaAlaAlaGlnGlnArgLysAlaPheLys CysTrpAsnCysGlyLysGluGlyHisSerAlaArgGlnCysArg AlaProArgArgGloglyCysTrpLysCysGlyLysProGlyEis IleHetThrAsneysProAspArgGlnAlaGlyPheLeuGlyLeu GlyProTrps1yLysLysProArgAsnPheProValAlaGlnVal ProGlaglyLeuThrProThrAlaProProValAspProAlaVal AspleuLeuGluLysTyrMetGlnGlnGlyLysArgGlnArgGlu GYnAr2GluArgProTyrLysGluValThrGluAspLeuLeuHis LeuGluGlnGlyGluThrProTyrArgGluProProThrGluAsp LeuLeuEisLeuAsaSerLeuPheGlyLysAspGla

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56. (Once Amended) The method of claim 52, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1114-1524 of the gag gene of HIV-2:

ArglysalaPhely

CysTrpAsaCysGlyLysGluGlyHisSerAlaArgGlaCysArs

AlaProArgArgGinGlyCysTrpLysCy.sGlyLysProGlyHis

IleHetThrAsnCysBroAspArzelnAlaGlyPheLeuGlyLeu

GlyProTrpGlyLysLysProArgAsnPheProValAlaGlnVal

ProGinGlyLeuThreroThralaProProValAspProAlaVal

Aspleuleuglulysty-HerglaglaglyLysAraglaAragla

1400 GlnArgGldArgProTyrLysGluValThrGluAspLeuLeuHis

LeuGluGluGlyGluThrProTyrArgGluProProThrGluAsp

. ISOO KeuleuRisleuAsuSerleuPheGlyLysAspGlu

57. (Once Amended) The method of claim 52, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1-405 of the gag gene of HIV-2.

HetGlyAlaArgAsnSerValLeuArgGlyLysLysAlaAspGlu
LeuGluArgIleArgLeuArgProGlyGlyLysLysTyrArg
LeuLysHisIleValTrpAlaAlaAspLysLeuAspArgPheGly
100
LeuAlaGluSerLeuLeuGluSerLysGluGlyCysGlnLysIle
LeuThrValLeuAspProHetValProThrGlySerGluAsnLeu
200
LysSerLeuPheAsnThrValCysValIleTrpCysIleEisAla
GluGluLysValLysAspThrGluGlyAlaLysGlnIleValArg
ArgHisLeuValAlaGluThrGlyThrAlaGluLysHetProSer
ThrSerArgProThrAlaProSerSerGluLysGlyGlyAsaTyr
400

58. (Once Amended) The method of claim 52, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 406-1155 of the gag gene of HIV-2:

ProvalGlaHis ValGlyGlyAsaTyrThrHisIleProLeuSer ProArgThrLeuAsnAlaTrpValLysLeuValGluG/luLysLys PheGlyAlaGluValValProGlyPheGlnAlaLeuSerGluGly 500 CysThrProTyrAspTleAsaGlnMetLeu4saCysValGlyAsp AlaAlaGluIrpAspValGlnHisFroIleProGl AlaGlyGlnLenArgGluFroArgGlySerAspIleAlaGlyThr ThrSerThrValGluGluGlnIleGlnTrpHetPheArgProG AsnProvalProvalGlyAsnTieTyrArgArgTrpIleGinIi GlyLeuGlnLy9CysValArgHetTyrAsnProThrAsnIlel AspileLys, GlaGlyProLysGluProPheGlaSerTyrValAsp ArgPhefyrLysSerLeuArgAlaGluGlaThrAspProAlaVal Lys AsaTrpHetThrGlaThrLeuLeuValGluAsnAlaAsaFro ysLysLeuValLeuLysGlyLeuGlyHetAsuProThrLeu 1000 .. GluGluHetLeuThrAIaCysGluGlyValGlyGlyProGlyGlu LysAlaArgLenRetAlaGluAlaLeuLysGluValllaGlyPro

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probe

(Once Amended) The method of claim 52, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid /sequence comprises nucleotides 1-2673 of the env gene of HIV-HethetAsaGlaLeuLeuIleAlaIleLeuLeuAlaSerAlaC/s Leu ValTyrCysThrGlnTyrValThrValPheTyrGlyYalPro ThrTrpLysAsuAlaThrIleProLeuPheCysAla/Th:A:gAsu ArgAspTbrTrpGlyTbrIleGlaCysLeuPrgAspAscAspAsp TyrGlnGluIleThrLeuAsnValThrGlmAlaPheAspAlaTrp AsnasnThrValThrGluGlnAlaIleGluAspValTrpEisLeu PheGluThrSerlieLysProCysValLysLeuThrProLeuCys ValAlalietLysCysSerSerThrGluSerSerThrGlyAsnAsn ThribrSerLysSerTorSerThribribrihribrihrrbrProlbrAsp GlnGluGluGluIleSerGluAspThrProCysAlaAr;AlaAsp AsnCysSer@lyLeuGlyGluGluGluThrIleAsnCysGinPhe ThrairpTyrSerLysAspValValCysGluThrAsnAscSerThr ThrGluSerCysAspLys2isTyrTrpAspAlcIleArgPheArg TyrCysAlaProProGlyTyrAlaLeuLeuArgCysAsnAspThr

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yr SerGlyPheAlaProAsnCysSerLysValValAlaSer

ThrCysThrArgHetHetGluThrGlnThrSerThrTrpPheGly PheAsoGlyThrArgAlaGluAsoArgThrTyrIleTyrTrpHi GlyArgAspAsnArgThrIleIleSerLeuAsnLysTyrTy 900 LeuSerLeuHisCysLysArgProGlyAsnLysThrValLysGln IleNetLeuNetSerGlyHis ValPheHisSerFisTyrGlnPro IleAsalysArgProArgGlaAlaTrpCysArpPheLysGlyLys TrpLysAspAlaHetG AnGlu ValLysThrLeuAlaLysBisPro ArgTyrArgGlyTbrAsnAspIdFArgAsalleSerPheAlaAla ProGlyLysGlySerAspPyoGluVallalaTyrHetTrpTbrAsa CysArgGlyGluPheLeuTyrCysAsnHetThrTrpPheLeuAsn TrpIleGluAsnLysThrEisArgAsnTyrAlaProCysEisIle LysGlmIle/ieAsmThrT:pEisLysValGlyArgAsmValTyr LeuProfroArgGluGlyGluLeuSerCysAsaSerThrValTar Ser/lelleAlaAsnIleAspTrpGlnAsnAscAsnGlnThrAsa IleThrPheSerAlaGluValAlaGluLeuTyrArgLeuGluLeu 1400 GlyAspTyrLysLeuValGluIleThrProIleGlyPheAlaPre

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ThrLysGluLysArgTyrSerSerAlaHisGlyArgHisThrArg GlyValPheValLeuGlyPheLeuGlyPheLeuAlaThrA/aGly SerAlaHetGlyAlaArgAl&SerLeuThrValSerAlaGinSer ArgThrLeuLeuAlaGlyTleValGlnGlnGlnGlnGlnGlnLeuLeu AspValValLysArgGinginGluLeuLeuArgLeuThrValTrp GlyThrLysAsnLeuGlnAlaArgVe/1ThrAlaIleGluLysTyr LeuGlnAspGlnAlaArgLeuAstSerTrpGlyCysAlaPheArg GlnValCysHisThrThrValProTrpValAsnAspSerLeuAla ProAspTrpAspAsnMetThrTrpGlnGluTrpGluLysGlnVal ArgTyrLeuGluAlaAsnIleSerLysSerLeuGluGlnAlaGln 1900 IleGlaGlaGluLysAsaMetTyrGluLeuGlaLysLeuAsaSer TrpAspl/ePheGlyAsnTrpPheAspLeuThrSerTrpValLvs TyriYeGlnTyrGlyValLeuileIleValAlaValileAlaLeu ArcileVallleTyrValValGinHetLeuSerArgLeuArgLys GlyTyrArgFroValPheSerSerProProGlyTyrIleGlmGln

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IleEisIleEisLysAspArgGlyGlnProAlsAsnGluGluThr

2200
GluGluAspGlyGlySerAsnGlyGlyAspArgTyrTrpProTrp

ProIleAlsTyrIleHisPheLeuIleArgGlnLeuIleArgLeu

LeuThrArgLeuTyrSerIleCysArgAspLeuLeuSerArgSer

2300
PheLeuThrLeuGlnLeuIleTyrGlnAsnLeuArgAspTrpLeu

ArgLeuArgThrAlaPheLeuGlnTyrGlyCysGluTrpIleGln

CluAlaPheGlnAlaAlaAlaAlaAlaArgAlaThrArgGluThrLeuAla

GlyAlaCysArgGlyLeuTrpArgValLeuGluArgIleGlyArg

ClyIleLeuAlaValProArgArgIleArgGlnGlyAlaGluIle

AlaLeuLeu***GlyThrAlaValSerAlaGlyArgLeuTyrGlu

AlaLeuLeu***GlyThrAlaValSerAlaGlyArgLeuTyrGlu

2600

TyrSerNetGluGlyProSerSerArgLysGlyGluLysPheVal

GinAlaThrLysTyrGly

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Please cancel claims 50-51 and 60-61 without prejudice or disclaimer and add the following new claims 62-71.

62. A method of detecting HIV-2 retrovirus RNA in a biological sample, said method comprising:

- a) contacting said sample with a (probe) wherein said probe comprises nucleic acid, wherein said nucleic acid is complementary to HIV-2 RNA;
- b) washing the resulting hybrid under stringent conditions; and
 - c) detecting said hybrid.
- 63. The method of claim 62, wherein said nucleic acid
- 64. The method of claim 62, wherein said nucleic acid comprises nucleotides 1-380 of the U3/R region of HIV-2, wherein said nucleotides 1-380 comprise the following sequence:

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65. The method of claim 62, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1-1566 of the gag gene of HIV-2: GAGRODE MetGlyAlaArgAssSerValLeuArgGlyLysLysAlaAspGlu

LeuGluArgIleArgLeuArgProGlyGlyLysLysLysTyrArg

LeuLysBisIleValTrpAlaAlaAenLysLeuAspArgPheGly

leuAlaGluSerLeuLeuGluSerLyeGluGlyCysGlnLysIle

LeuThrValLeuAspProNetValProThrGlySerGluAsnLeu

200

LysSerLeuPheAsnThrValCysValIleTrpCysIleEisAle

300 ArghisleuvalAlaGluThrGlyThrAlaGluLysHecProSer ThrSerArgProThrAlaProSerSerGluLysGlyGlyAsaTyr

GlaGlaLys ValLysAspThrG/uGlyAlaLysGlaIle ValAr

ProvelGlaHis ValGlyGlyAsaTyrThrHisIleProLeuSer ProArgThrLepAsnAlaTrpValLysLeuValGluGluLysLys

PheGlyAlaGluValValProGlyPheGlaAlaLeuSerGluGly

SOO CysThyProTyrAspIleAsnGlnNetLeuAsnCysValGlyAsp

EieGloAlaAlaHetGloIleIleArgGluIleIleAsoGluGlu

600 LanlaGluTrpAspValGluHisProIleProGlyProLeuPro

AlaGlyGluLeuArgGluProArgGlySerAspIleAlaGlyThr

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AsnProValProValGlyAsnIleTyrArgArgTrpIleGln Vie GlyLeuGlnLysCysValArgHetTyrAsnProThrAsnYleI AsplieLysGlaGlyProLysGluProPheGlaSerTyrValAsp ArgPheTyrLysSerLeuArgAlaGluGlaThrAspProAlaVal LysAsnTrpMetThrGlnThrLeuLeuValglnAsnAlaAsnPro AspCysLysLeuValLeuLysGlyLeuSlyNetAsnProThrLeu 1000 GluGluHetLeuThrAYaCysGlnglyValGlyGlyProGlyGln LysAlaArgLeuHetAlaGluA/iaLeuLysGluValIleGlyPro 1100 AlaProlleProPheAlaAl aAlaGlnGlnArgLysAlaPheLys CysTrpAsnCysGlyLy/sGluGlyHisSerAlaArgGlnCysArg 1200 AlaProArgArgGlpGlyCys/TrpLysCysGlyLysProGlyHis IleHetThrAsneysProAspArgGlnAlaGlyPheLeuGlyLeu GlyProTrpG/iyLysLysProArgAsnPheProValAlaGlnVal ProGlaGlyLeuThrProThrAlaProProValAspProAlaVal AspleyLeuGluLysTyrHetGlnGlnGlyLysAraGlnArgGlu GlnArgGluArgProTyrLysGluValThrGluAspLeuLeuHis

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FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, L. L. P. 1300 I STREET, N. W. WASHINGTON, DC 20005 202-408-4000 L/euGluGluGlyGluThrProTyrArgGluProProThrGluAsp

LeuleuHisleuAsuSerLeuPheGlyLysAspGlu

66. The method of claim 62, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1114-1524 of the gag gene of HIV-2:

Arglysalabbelys

CystrpAsaCysGlyLysGluGlyHisSerAlaArgGlaCysArg

1200
AlaProArgArgGlaGlyCysTrpLysCysGlyLysProGlyHis

IleHetThrAsaCysProAspArgGlaAlaGlyPheLeuGlyLeu
GlyProTrpGlyLysLysProArgAsaPheProValAlaGlaVal

ProGlaGlyLeuThrProThrAlaProProValAspProAlaVal

AspLeuLeuGluLysTyrHetGlaGlaGlyLysArgGlaArgGla

1400
GlaArgGluArgProTyrLysGluValThrGluAspLeuLeuHis

LeuGluGlaGlyGluThrProTyrArgGluProProThrGluAsp

1500
LeuLeuHisLeuAsaSerLeuPheGlyLysAsaGla

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67. The method of claim 62, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1-405 of the gag gene of HIV-2:

HetGlyAlaArgAsaSerValLeuArgGlyLysLysAlaAspGla
LeuGluArgIleArgLeuArgProGlyGlyLysLysTyrArg
LeuLysHisIleValTrpAlaAlaAsaLysLeuAspArgPheGly
LeuAlaGluSerLeuLeuGluSerLysGluGlyCysGlaLysIle
LeuThrValLeuAspProHetValProThrGlySerGluAsaLea
LysSerLeuPheAsaThrValCysValIleTrpCysIleEisAla
GluGluLysValLysAspThrGluGlyAlaLysGlaIleValArg
ArgHisLeuValAlaGluThrGlyThrAlaGluLysMetProSer
ThrSerArgProThrAlaProSerSerGluLysGlyGlyAsaTyr
400

68. The method of claim 62, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 406-1155 of the gag gene of HIV-2:

ProvalGinHis ValGlyGlyAsaTyrThrHisIleProLeuSer ProArgThrLenAsnAlaTrpValLysLeuValGluGluLysLys PheGlyAlaGluValValProGlyPheGlnAlaLeuSerGluGly CysThrProTyrAspTleAsaGloMetLeuAsaCysValGlyAsp AlaAlaGluIrpAspValGluEisProIleProGlyProLeuPro AlaGlyGlnLenArgGluProArgGlySerAspIleAlaGlyThr ThrSerThrValGluGluGlaIleGlaTrpHetPheirgProGla AsaProvalProvelGlyAsaIleTyrArgArgTrpIleGlaIl GlyLeuGlnLysCys Val ArgPWeTyrLysSerLeuArgAlaGluGlnTbrAspProAlaVal GluGluMetLeuThrAIaCysGlaGlyValGlyGlyProGlyGla LysAlaArgLeuRetAlaGluAlaLeuLysGluVallleGlyPro

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AlaProlleProPheAlaAlaAlaGlmGlm

69. The method of claim 62, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1-2673 of the env gene of HIV-2:

Leu ValTyrCysThrGlnTyrValThrValPheTyrGlyValPro ThrTrpLysAsnAlaThrIleProLeuPheCysAlaTh:A: 1Asn ArgAspThrTrpGlyThrIleGlaCysLeuPpoAspAstAspAsp TyrGlnGluIleThrLeuAsnValThrGYuAlaPheAspAlaTrp AspasoThrValThrGluGloAlaIXeGluAspValTrpEisLeu PheGluThrSerIleLysProCysValLysLeuThrProLeuCys ValAlalietLysCysSetSerThrGluSerSerThrGlyAsnAsn ThrThrSerLysSerTh/SerThrThrThrThrThrProIbrAsp GinGluGluGluIl&SerGluAspThrProCysAlaAr;AlaAsp AsnCysSerGlyLeuGlyGluGluGluThrIleAsnCvsGinPhe

ThrTryTyrSerLysAspValValCysGluThrAsuAscSerThr

AsnGlnThrGlnCysTyrHetAsnEisCysAsnThrSerVallle

600

ThrGluSerCysAspLysZisTyrTrpAspAlalleArgPheArg

TyrCysAlaProProGlyTyrAlaLeuLeuArgCysAsnAspThr

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ThrCysThrArgHetHetGluThrGluThrSerThrTrpPheGly PheAsaGlyThrArgAlaGluAsaArgThrTyrIleTyrTrpHis GlyArgAspAsnArgThrIleIleSerLeuAsnLysTyrTyx LeuSerLeuBisCysLysArgProGlyAsnLysThrVs1LysGla IleHetLeuHetSerGlyHisValPheHisSerE/sTyrGlnPro IleAs nLysArgProArgGlpAlaTrpCysTrpPheLysGlyLys 1000 TrpLysAspAlaHetGlnGluValLysPhrLeuAlaLysBisPro TrplleGluAsnLysThrEisArgAsnTyrAlaProCysEisIle LysGlmIleIlsAsmThrTrpEisLysValGlyArgAsmValTyr LeuProProArgGluGlyGluLeuSerCysAstSerThrValThr SerlielleAlaAsmileAspTrpGlnAsnAsmAsmGlmThrAsm Il ThrPheSerAlaGluValAlaGluLeuTyrArgLeuGluLeu 4400 GlyAspTyrLysLeuValGluIleThrProIleGlyPheAlaPre

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ThrLysGluLysArgTyrSerSerAlaHisGlyArgHisThrArg Gly ValPhe ValLeuGly PheLeuGly PheLeuAla Thr Ala 613. SerAlaHetGlyAlaArgAlaSerLeuThrValSerAlaGlnSer 1600 ArgThrLeuLeuAlaGlyIleValGlnGlnGlnGlnGlnLeuLeu Asp ValValLysArgGlaGlaGluLeuLeuArgLeuThr ValTrp GlyThrLysAsnLerGlnAlaArgValThrAlaIleGluLysTyr LeuGlnAspGlnAlaArgLeuAsp\$erTrpGlyCysAlaPheArg Gln ValCys His Thr The ValProT:p ValAsnAspSerLeuAla ProAspTrpAspAsnMetThrTrpGlnGluTrpGluLysGlnVal ArriveLeuGluAlaAsnileSerlysSerLeuGluGlnAlaGla IleGlaGlaGlaLysAsaMetTyrGlaLeaGlaLysLeuAsaSer TrpAspIlePheGlyAsaTrpPheAspLeuThrSerTrpValLvs TyrIleGinTyrGlyValLeuIleIleValAlaValIleAlaLen ArrixeVallleTyrValValGlnHetLeuSerArzLeuArrLys GATTTARTTOVALPheSerSerProProGlyTyrIleGlmGln

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IleEisIleEisLysAspArgGlyGlnProAlaAsnGluGluThr GluGluAspGlyGlySerAsnGlyGlyAspArgTyrTrpPrgTrp ProlleAlaTyrileHisPheLeuileArgGlnLeuileArgLen LeuThrArgLeuTyrSerIleCysArgAspLeuXeuSerArgSer 2300 uGlnIgrGlyCysGluTrpIleGln 2400 2600 TyrSerHerGluGlyProSerSerArgLysGlyGluLysPheVal GinA/aThrLysTyrGly